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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,601	08/10/2001	Shunichi Hosoyamada	NIS.039	5450

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EXAMINER

DINH, DUC Q

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 08/27/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

[Handwritten signature]

Office Action Summary

Application No.

09/925,601

Applicant(s)

HOSOYAMADA, SHUNICHI

Examiner

DUC Q DINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 53-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 53-54 recited the limitations “first uniform interval and second uniform interval, uniform reversal and concurrent uniform intervals (claim 53) first predetermined uniform interval, second predetermined uniform interval and a combination of uniform polarity reversals”. Although the specification does mention “specified intervals for row direction and column direction” (page 19, lines 6-9) and the method of reverse polarity of data signals (page 20, lines 25-29, page 21, lines 6-29...). There is no support for the cited limitations: “first uniform interval and second uniform interval, uniform reversal and concurrent uniform intervals (claim 53) first predetermined uniform interval, second predetermined uniform interval and a combination of uniform polarity reversals”.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “the first uniform interval and second uniform interval, uniform reversal and concurrent uniform intervals (claim 53) first predetermined uniform interval, second predetermined uniform interval and a combination of uniform polarity reversals” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art, hereinafter AAPA (page 1-7 and Fig. 12-16), in view of Wolfs et al. (U. S. Patent No. 5,689,282).

In reference to claim 1, the AAPA discloses an LCD in Fig. 12 in which a liquid crystal display cell is mounted at an intersection of a plurality of scanning electrodes and placed at a specified intervals in a row direction and each of a plurality of signal electrodes plated at specified interval in a column direction, by sequentially feeding scanning signals to said plurality of said scanning electrodes and by sequentially feeding data signals to said plurality of the signal electrode, after having reversed the polarity of the data signal Sd based on the polarity reversing pulse POL, feeds each of them to each of corresponding signal electrodes 43 (page 3, lines 5-28). However, the AAPA does not discloses the circuit for reversing a polarity of each of the data signals for every 2n piece of the scanning electrodes and for every the signal electrode in the liquid crystal display. Wolfs discloses a display device having a row selection circuit 13 that can reverse a polarity of the data signals for every 2 rows or n rows (double line inversion ≤ 2) (see Fig. 3).

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to substitute the selection circuit of Wolfs for the scanning electrode in the AAPA because it would provide a display device in which the stripe effect are reduce considerably (col. 1, lines 40-43).

In reference to claims 2-3, the AAPA discloses the three color filters are arranged as claimed (see Fig. 13).

In reference to claim 4, the AAPA disclose the arrangement of four-dot pixel arranged in a quadrangular form as claimed (AAPA page 5, lines 4-9).

In reference to claims 5- 6, the AAPA discloses that the LCD 41 of Fig. 12 is an active matrix color using, for example, a TFT (Thin Film Transistor).

In reference to claim 7, refer to the rejection as applied to claim 1. In addition, the AAPA discloses a method of displaying a monochromatic color as claimed in that when a polarity of a data signal Sd to be fed to a signal electrode connected to each of the dot pixel portions is reversed during a frame period, the data signal Sd is controlled so that, in a same frame, the data signal to be fed to the R and G dot pixel portions and the data signal to be fed to the B and G dot pixel portions are opposite in polarity and also data signal to be fed to the G and G dot pixel portions and the data to be fed to the R and B dot pixel portions are opposite in polarity. (AAPA, page 5, line 4-27).

In reference to claims 8-9, refer to the rejections as applied to claims 2-3.

In reference to claim 10, refer to the rejection as applied to claim 4.

In reference to claims 11-12, refer to the rejection as applied to claim 5-6.

In reference to claim 13, refer to the rejection as applied to claim 1. In addition, Wolfs discloses row electrodes are divided into groups of two the selection voltages within each group of two are thus different. The correction to be set is also dependent on the setting on the transmission/voltage characteristic curve and is preferably set at a value halfway this characteristic curve (col. 4, lines 14-31).

In reference to claims 14-18, refer to the rejections as applied to claims 2-6.

In reference to claim 19, refer to the rejection as applied to claim 1. In addition, Wolfs discloses that row electrodes 8 are consecutively selected by means of, for example, a row selection circuit 13, while the information to be presented for a selected row of pixels is stored in a register 14. The assembly is driven and synchronized by means of the switching unit 15. In this embodiment the rows are divided into groups of two, with the possible exception of the first

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and the last row, i.e. a display device comprising n rows of pixels is then divided into at least $(n-2)/2$ groups of two rows of pixels (col. 4, lines 6-13). In addition, Wolfs discloses if a row is charged positively, which corresponds to a selection voltage $V_{\text{sub.s1}}$ in FIG. 6, the variation of the voltage across picture electrode 6 (medium grey) is $-2V_{\text{sub.c}} = -(V_{\text{sub.sat}} + V_{\text{sub.th}})$ (this value also applies to the previous example; $V_{\text{sub.sat}}$: saturation voltage, $V_{\text{sub.th}}$: threshold voltage), which corresponds to a negative feedback to the picture electrode in the previous row. If the row is charged negatively, the reset voltage $V_{\text{sub.res}}$ is first applied to a row electrode. This does not have any influence on the picture electrode in the previous row because this row receives a selection voltage $V_{\text{sub.s2}}$ at that moment and consequently the non-linear switching element is still conducting (time interval t_1 in FIG. 6). Picture electrode 6 is charged to a voltage of at least $V_{\text{sub.sat}} + 1/2(V_{\text{sub.sat}} - V_{\text{sub.th}})$ at the end of the reset period. At the end of the next selection period the voltage (in the case of medium grey) is $1/2(V_{\text{sub.sat}} + V_{\text{sub.th}})$ resulting in a net variation of $-1/2(V_{\text{sub.sat}} - V_{\text{sub.th}})$ across the picture electrode in the previous row (col. 4, lines 35-55).

In reference to claims 20-24 refer to the rejections as applied to claims 2-6

Claims 25-52 are apparatus claims corresponding to the method of claims 1-24, and therefore, rejected based on the same basis set forth in said claims.

Response to Arguments

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6. Applicant's arguments, see pages 22-23 of the amendment filed on June 11th, 2003, with respect to the rejection(s) of claim(s) 19-24, 43-48, 50 and 52 under 112 rejection have been fully considered and are persuasive in view of the amendment.

With respect to the rejection of claims 1-52 under 103 rejections (pages 23-28 of the amendment), in which applicant's argues that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., by slanting the flicker that would normally occurring ...allows the monochromatic image flicker to be slanted.... The combination of Wolfs in view of the APA with destroy the respectively that is already used to reduce flicker...) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). With respect to claims 7, 31 and 50, the AAPA discloses a method of displaying a monochromatic color as claimed in that when a polarity of a data signal Sd to be fed to a signal electrode connected to each of the dot pixel portions is reversed during a frame period, the data signal Sd is controlled so that, in a same frame, the data signal to be fed to the R and G dot pixel portions and the data signal to be fed to the B and G dot pixel portions are opposite in polarity and also data signal to be fed to the G and G dot pixel portions and the data to be fed to the R and B dot pixel portions are opposite in polarity. (AAPA, page 5, line 4-27). With respect to claim 19, see the rejection as applied to claim 19.

In addition, in view of the personal interview on July 1, 2003 with the examiner, applicant's representative recognized that the language of the independent claims is not reflected the claimed invention and would amend the application upon receiving this Office Action.

Therefore, the rejection is maintained.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

Or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,
Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

DUC Q DINH
Examiner
Art Unit 2674

DQD
August 24, 2003



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